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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,248	03/11/2004	Leonard J. Smka	PM 98.076/3	5899

7590 03/16/2006  
J. Paul Plummer  
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P.O. Box 2189  
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EXAMINER
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LEDYNH, BOT L

ART UNIT	PAPER NUMBER
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2862

DATE MAILED: 03/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/798,248

Applicant(s)

SRNKA, LEONARD J.

Examiner

Bot LeDynch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) 34-46 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-33 and 47-80 is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
Bot LeDynch  
Primary Examiner

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/11/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

Applicant's election with traverse of group I (claims 1-33 and 47-61) in the reply filed on 2/21/2006 is acknowledged. Invention of group III (claims 62-80) will be examined together with the invention of group I. As to the invention of group II (claims 34-46), Applicant's traversal is on the ground(s) that (1) the focused electromagnetic source of claim 34 would never be used in well logging, (2) it does not require a separate search, and (3) the invention of claim 34 does not belong to class 367 which includes acoustic wave. This is not found persuasive because the following reasons:

As to (3), if the invention of claim 34 does not belong to class 367, it would belong to class 340/853.1+ or 702/6+ (but definitely not belong to class 324). It should be noted that class 324 "is the residual home for all subject matter, not elsewhere classified, relating to the measuring, testing (or sensing) of electric properties, (e.g., determining ground resistivity, determining frequency of an alternating current, determining kilowatt hour demand), or the measuring, testing or sensing of nonelectric properties by electric means (e.g., determining moisture, a nonelectric property, by measuring conductance with a resistance bridge; determining speed, a nonelectric property by use of an electric tachometer) (See USPTO class definitions). "[D]esigning a focused electromagnetic source" definitely does not belong to class 324.

As to (1), contrary to Applicant's argument, electromagnetic sources have been used in logging industry for decades (see references cited below).

As to (2), there would be a serious search burden as evidenced by separate classification (see the restriction requirement dated 1/30/06) or separate status (one

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being a method for designing an electromagnetic source, the other being a method for surface estimation).

The requirement is still deemed proper and is therefore made FINAL.

Claims 47-80 are objected to because the entire text of those new claims are not underlined. Appropriate corrections are required.

The specification is objected to: New claims have to be completely underlined.

Appropriate correction is required.

#### **CITED REFERENCES**

Prior art references (Day (5142472), Bouldin et al (5666050), Thompson et al (5486764), Paulsson (4751688)) are cited for their use of electromagnetic source in logging industry.

Claims 1-33 and 47-80 are allowed.

#### ***Examiner's Statement of Reasons for Allowance***

The following is an examiner's statement of reasons for allowance: The prior art of record does not, alone or in combination, disclose determining the location of and at least one average earth resistivity using geological and geophysical data from the

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vicinity of the subsurface geologic formation; determining dimensions and probing frequency to substantially maximize transmitted vertical and horizontal electric currents at the subsurface geologic formation using the location and the at least one average earth resistivity; and processing the electromagnetic response using the geometrical and electrical parameter constraints to produce the resistivity depth image

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Bot LeDynch whose telephone number is 5712722231. The examiner can normally be reached on Maxiflex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on 5712722180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BL/ 2006



Bot LeDynch, J.D., Ph.D., Dr.A.  
Primary Examiner